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## Title 27 - Alcohol, Tobacco Products and Firearms

### Chapter I - Alcohol and Tobacco Tax and Trade Bureau, Department of the Treasury

#### Subchapter A - Alcohol

#### Part 24 - Wine

#### Subpart L - Storage, Treatment and Finishing of Wine

**Authority:** 5 U.S.C. 552(a); 26 U.S.C. 5001, 5008, 5041, 5042, 5044, 5061, 5062, 5121, 5122-5124, 5173, 5206, 5214, 5215, 5351, 5353, 5354, 5356, 5357, 5361, 5362, 5364-5373, 5381-5388, 5391, 5392, 5511, 5551, 5552, 5661, 5662, 5684, 6065, 6091, 6109, 6301, 6302, 6311, 6651, 6676, 7302, 7342, 7502, 7503, 7606, 7805, 7851; 31 U.S.C. 9301, 9303, 9304, 9306.

**Source:** T.D. ATF-299, 55 FR 24989, June 19, 1990, unless otherwise noted.

#### § 24.248 Processes authorized for the treatment of wine, juice, and distilling material.

The processes listed in this section are approved as being consistent with good commercial practice for use by proprietors in the production, cellar treatment, or finishing of wine, juice, and distilling material, within the general limitations of this section. If, however, the U.S. Food and Drug Administration (FDA) informs TTB that a specified use or limitation of any material listed in this section is inconsistent with the food additive requirements under the Federal Food, Drug, and Cosmetic Act, the appropriate TTB officer may cancel or amend the approval for use of the process in the production, cellar treatment, or finishing of wine, juice, and distilling material.

#### Processes Authorized for the Treatment of Wine, Juice, and Distilling Material

Processes	Use	Reference or limitation
Cross flow filtration	Various processes and uses. <sup>1</sup>	
Nanofiltration <sup>2</sup>	To reduce the level of volatile acidity in wine (used with ion exchange), to reduce the ethyl alcohol content of wine.	Permeable membranes that are selective for molecules not greater than 500 molecular weight with transmembrane pressures of 200 pounds per square inch (psi) and greater. The addition of water other than that originally present prior to processing will render standard wine "other than standard." Use must not alter the vinous character of the wine. May be used in combination with osmotic transport.
Reverse osmosis <sup>2</sup>	To reduce the ethyl alcohol content of wine and to remove off flavors in wine.	This process must use permeable membranes which are selective for molecules not greater than 150 molecular weight with transmembrane pressures of 250 psi or less.
Ultrafiltration <sup>2</sup>	To remove proteinaceous material from wine; to reduce harsh tannic material from white wine produced from white skinned grapes; to remove pink color from blanc de noir wine; to separate red	Permeable membranes that are selective for molecules greater than 500 and less than 25,000 molecular weight with transmembrane pressures less than 200 psi. Shall not alter vinous character.

Processes	Use	Reference or limitation
	and white juice and wine into low color and high color fractions for blending purposes, to reduce the ethyl alcohol content of wine.	
Electrodialysis	To aid in the removal of tartrates	This process must not alter the vinous character of the wine.
Elimination of sulfur dioxide by physical process	To reduce the sulfur dioxide content of juice	Use of a physical process to remove sulfur dioxide from juice must not alter the basic character of the juice so treated
Ion exchange	Various applications in the treatment of juice or wine:	Anion, cation, and non-ionic resins, except those anionic resins in the mineral acid state, may be used in batch or continuous column processes as total or partial treatment of wine, provided that with regard to juice or finished wine;
		1. Such treatment does not alter the fruit character of the juice or wine.
		2. The treatment does not reduce the color of the juice or wine to less than that normally contained in such juice or wine.
		3. Treatment does not increase inorganic anions in the juice or wine by more than 10 mg/L.
		4. The treatment does not reduce the metallic cation concentration in the juice or wine to less than 300 mg/L.
		5. The treatment does not reduce natural or fixed acid in grape wine below 4 g/L for red table wines, 3 g/L for white table wines, 2.5 g/L for all other grape wines, 4 g/L for wine other than grape wine.
		6. Treatment does not reduce the pH of the juice or wine to less than pH 2.8 nor increase the pH to more than pH 4.5.
		7. The resins used have not imparted to the juice or wine any material or characteristic (incidental to the resin treatment) which may be prohibited under any other section of the regulations in this part. The winemaker may employ conditioning and/or regenerating agents consisting of water, fruit acids common to the wine or juice being treated, and inorganic acids, salts and/or bases provided the conditioned or regenerated resin is rinsed with water until the resin and container are essentially free from unreacted (excess) conditioning or regenerating agents prior to the introduction of the juice or wine. 21 CFR 173.25.

Processes	Use	Reference or limitation
Metal reducing matrix sheet processing	To reduce the level of metals such as copper and iron in wine	(1) The active ingredient, polyvinylimidazol, must not constitute more than 40% by weight of the sheet. (2) Use of the sheet must not significantly alter the color of the wine.
Osmotic transport <sup>2</sup>	For alcohol reduction.	(1) Use must not alter the vinous character of the wine. (2) None of the stripping solution may migrate into the wine. (3) May be used in combination with reverse osmosis.
Spinning cone column <sup>2</sup>	To reduce the ethyl alcohol content of wine and to remove off flavors in wine.	Use shall not alter vinous character. For standard wine, the same amount of essence must be added back to any lot of wine as was originally removed.
Sulfide reducing matrix sheet processing	To reduce the level of sulfides in wine	(1) The active ingredient, polyvinylimidazol, must not constitute more than 40% by weight of the sheet. (2) Use of the sheet must not significantly alter the color of the wine.
Thermal gradient processing	To separate wine into low alcohol and high alcohol wine fractions	The fractions derived from such processing shall retain vinous character. Such treatment shall not increase the alcohol content of the high alcohol fraction to more than 24 percent by volume. The addition of water other than that originally present in the wine prior to processing will render standard wine "other than standard."
	To separate juice into low Brix and high Brix juice fractions	The low Brix fraction derived from such processing may be used in wine production. The high Brix fraction derived from such processing shall not be diluted with water for use in wine production.
Thin film evaporation under reduced pressure <sup>2</sup>	To separate wine into a low alcohol wine fraction and into a higher alcohol distillate.	Use shall not alter vinous character. Water separated with alcohol during processing may be recovered by refluxing in a closed continuous system and returned to the wine. The addition of water other than that originally present in the wine prior to processing, will render standard wine "other than standard" wine.

<sup>1</sup> In cross-flow filtration, the wine is passed across the filter membrane (tangentially) at positive pressure relative to the permeate side. A proportion of the wine which is smaller than the membrane pore size passes through the membrane as permeate or filtrate; everything else is retained on the feed side of the membrane as retentate.

<sup>2</sup> When used to remove ethyl alcohol (dealcoholization), this process must be done on distilled spirits plant premises. However, reverse osmosis and nanofiltration, under certain limited conditions, may be used on bonded winery premises if ethyl alcohol is only temporarily created within a closed system.

[T.D. ATF-299, 55 FR 24989, June 19, 1990, as amended by T.D. ATF-312, 56 FR 31081, July 9, 1991; T.D. ATF-350, 58 FR 52232, Oct. 7, 1993; T.D. ATF-371, 61 FR 21079, May 9, 1996; T.D. ATF-409, 64 FR 13683, Mar. 22, 1999; T.D. TTB-17, 69 FR 67644, Nov. 19, 2004; T.D. TTB-185, 87 FR 51902, Aug. 24, 2022]

